

Montana Department of Natural Resources and Conservation  
Water Resources Division  
Water Rights Bureau

**ENVIRONMENTAL ASSESSMENT**  
**For Routine Actions with Limited Environmental Impact**

**Part I. Proposed Action Description**

1. Applicant/Contact name: **Ballard Ranch Inc.  
PO Box 73  
Lavina, MT 59046**
2. Type of action: **Application to Change a Water Right No. 40A 30105877**
3. Water source name: **Musselshell River**
4. Location affected by project: **Sections 8 & 9 T6N, R23E, Golden Valley County**
5. Narrative summary of the proposed project, purpose, action to be taken, and benefits:

**Applicant proposes to change three points of diversion that historically served flood irrigation systems that will now facilitate a partial change in irrigation method to center pivot sprinklers. Applicant's previous flood diversion point #1 will remain unchanged and supply water to a 6-acre flood irrigated field at the historic rate of up to 5.46 CFS. The proposed change would ultimately result in three diversions supplying four small center pivot systems and a fourth diversion supplying the 6-acre flood irrigation system. The combined places of use are being reduced from 138.6 acres to 126 acres. The pivots will irrigate 120 acres and 6 acres will remain in flood irrigation. The remaining 12.6 acres will be retired from irrigated production. The three new/proposed pivot diversions (pumps) will be located in the NESWNW Section 8, the NENWSE Section 9 and the SWSENE Section 9, all in T6N, R23E. The one flood diversion will remain in the SWNWNW Section 8 T6N, R23E. This permit supplies approximately 1/3 of the annual water requirement for the subject parcels based on the USDA Irrigation Water Requirement (IWR) program. The Applicant also owns shares of contract water from the Deadmans Basin Water Users Association, and supplies the irrigation systems with supplemental water, typically after the period of appropriation for this Permit has expired (after June 30).**

6. Agencies consulted during preparation of the Environmental Assessment:  
(include agencies with overlapping jurisdiction)

**Dept. of Environmental Quality Website - TMDL 303d listing  
MT. National Heritage Program Website - Species of Concern  
USDI Fish & Wildlife Service Website - Endangered and Threatened Species**

## **Part II. Environmental Review**

### **1. Environmental Impact Checklist:**

<b>PHYSICAL ENVIRONMENT</b>
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#### **WATER QUANTITY, QUALITY AND DISTRIBUTION**

**Water quantity** - Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.

*Determination:*           **No Significant Impact.**

The source is the Musselshell River, which has been declared chronically dewatered under MCA 85-2-150. It is closed to new appropriations from July through September. The Musselshell River Water Management Study shows that during most years, no water is reasonably available for appropriation during these months. It also shows that in some years no water is available for appropriation at any time and that many existing water rights are not satisfied. Because of this situation, any added burden on the source represents an adverse effect to other water users. The applicant says they will not be using any more water than has been used historically. If Applicant adheres to all Department conditions of appropriation (measurement), this project will not have a significant impact on surface water quantity in the Musselshell River.

**Water quality** - Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.

*Determination:*           **No Significant impact.**

The reach of the Musselshell River near this project has been designated as needing a TMDL plan. The 2014 303d listing identifies impairments to aquatic life support probably caused by low flow alterations, streamside vegetation alteration, Nitrogen & Phosphorous levels and other habitat alterations. No significant impacts to water quality are anticipated because of this project. The stipulations/conditions noted under the water quantity section above could limit further impact to the impaired conditions to aquatic life by ensuring proposed diversions from the source do not exceed historic diversions. In addition, the place of use for irrigation has been previously disturbed by past agriculture practices.

**Ground water** - Assess if the proposed project impacts ground water quality or supply. If this is a ground water appropriation, assess if it could impact adjacent surface water flows.

*Determination:*           **No Significant Impact.**

The proposed change should not have a significant impact on ground water quality or supply. The proposed place of use for the new pivot may realize a minor increase in seasonal water table elevations; in turn, the potentiometric water surface under acres being retired from flood irrigation should see a decrease in seasonal elevations.

**DIVERSION WORKS** - Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.

Determination:           **No Significant Impact.**

The flood irrigation system consists of a Berkeley Model 3704 15-inch vertical turbine pump driven by a General Electric 3-phase 15-horsepower motor that conveys up to 5.46 CFS of water to 12-inch diameter gated pipe. The three sprinkler irrigation systems consist of two full-circle pivots and one half-pivots. Pivot diversion works include; portable, trailer-mounted pumping systems with 3-inch Cornell pumps (3RB) powered by variable frequency 20-horsepower motors that convey water through a 6-inch supply pipeline to the pivots. The flow rate diverted to the pivots ranges from 240-530 gallons per minute each, or a combined total flow rate of 4.03 CFS. The applicant will be restricted to his historic flow rate and has portable pivot pumps; therefore, no significant impacts are anticipated to channel impacts, flow modifications, barriers, riparian areas, dams, well construction.

**UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES**

**Endangered and threatened species** - Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any "species of special concern," or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or "species of special concern."

Determination:           **No Significant Impact.**

The Montana National Heritage Program currently lists the Black-tailed Prairie Dog, Hoary Bat, Great Blue Heron, Greater Sage-Grouse, Spiny Softshell, Plains Spadefoot and one fish (Northern Redbelly Dace) as Species of Concern within Township 6 North Range 23 East. There are no known Plant Species of Concern listed in the area of interest. The USDI Fish & Wildlife Service Report (Sept. 2009) indicates that Golden Valley County has one species listed as endangered, the Black-footed Ferret. Since this project is associated with ground that has been previously farmed and grazed, there is a low likelihood of impact to endangered or threatened species because of this appropriation.

**Wetlands** - Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.

Determination:           **No Significant Impact.**

The acreage involved in this permit application has been previously farmed and therefore, wetlands should not be impacted by this project. The USDI Fish & Wildlife Service –

**Wetlands Online Mapper shows Freshwater Emergent and Freshwater Forested/Shrub Wetland types in the area; however they should not be affected by the proposed irrigation.**

**Ponds** - *For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.*

*Determination:*           **No Significant Impact.**

**This project does not involve a pond. No impact to wildlife, waterfowl, or fisheries is anticipated.**

**GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE** - *Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

*Determination:*           **No Significant Impact.**

**No significant impacts to the soil profile are anticipated. The Sodium Adsorption Ratio is very low for all the soil components in the area of interest and the acreage involved in this permit application has been previously developed for irrigation and therefore, should not be impacted by this project.**

**VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS** - *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

*Determination:*           **No Significant Impact.**

**Typical construction activities associated to pump & pipeline installation can cause short-term disturbances to vegetative cover; however, there is a low likelihood of any long term or significant impact because of this project. It is the responsibility of the property owner to control noxious weeds on their property.**

**AIR QUALITY** - *Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.*

*Determination:*           **No Significant Impact.**

**It is unlikely air quality will be deteriorated. No impacts to air quality have been identified.**

**HISTORICAL AND ARCHEOLOGICAL SITES** - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project if it is on State or Federal Lands. If it is not on State or Federal Lands simply state NA-project not located on State or Federal Lands.*

*Determination:*           **No Significant Impact.**

**Not Applicable – Project not located on State or Federal Lands**

**DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY** - Assess any other impacts on environmental resources of land, water and energy not already addressed.

Determination: **No Significant Impact.**

**No additional impacts are anticipated.**

## HUMAN ENVIRONMENT

**LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS** - Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.

Determination: **No Significant Impact.**

**No locally adopted environmental plans or goals have been identified.**

**ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES** - Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.

Determination: **No Significant Impact.**

**This proposal should not impact recreational activities in the area.**

**HUMAN HEALTH** - Assess whether the proposed project impacts on human health.

Determination: **No Significant Impact.**

**No impacts to human health have been identified.**

**PRIVATE PROPERTY** - Assess whether there are any government regulatory impacts on private property rights.

Yes\_\_\_ No X\_\_\_ If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.

Determination: **No Significant Impact.**

**OTHER HUMAN ENVIRONMENTAL ISSUES** - For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.

Impacts on:

(a) Cultural uniqueness and diversity? **None**

(b) Local and state tax base and tax revenues? **None**

(c) Existing land uses? **Flood irrigation to sprinkler irrigation.**

(d) Quantity and distribution of employment? **None**

(e) Distribution and density of population and housing? **None**

(f) Demands for government services? **None**

(g) Industrial and commercial activity? **None**

(h) Utilities? **None**

(i) Transportation? **None**

(j) Safety? **None**

(k) Other appropriate social and economic circumstances? **None**

**2. *Secondary and cumulative impacts on the physical environment and human population:***

Secondary Impacts – Secondary impacts are expected to be minor, more water will be available in the stream during periods of pivot diversion to offset reduced return flows. In addition, consumptive use for the new center pivot system as it relates to historic flood irrigation will not change.

Cumulative Impacts - More and more historic acres are being converted to center pivot sprinkler irrigation to facilitate better water management, increased production and reduced labor. Water is more easily managed with a pivot and application rates can be matched to the landowners' specific soil characteristics. Generally, acres under a center pivot system will experience increased production compared to flood acres, which in turn increases crop water consumption. In this instance, the Applicant will be limited to using the same consumptive use after conversion from flood to more efficient pivot irrigation and a water measuring device will aid in controlling the amount of water used.

**3. *Describe any mitigation/stipulation measures:***

**No mitigation or stipulation measures have been identified by the Applicant. The Department may impose a measurement condition to ensure required criteria are met.**

**4. *Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:***

**No action alternative: Deny the application. This alternative would result in none of the benefits being realized by the Applicant.**

### *PART III. Conclusion*

#### *1. Preferred Alternative*

**The preferred alternative is the proposed alternative.**

#### *2 Comments and Responses*

**None Received.**

#### *3. Finding:*

*Yes\_\_\_ No X Based on the significance criteria evaluated in this EA, is an EIS required?*

*If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action:*

None of the identified impacts for any of the alternatives are significant as defined in ARM 36.2.524.

*Name of person(s) responsible for preparation of EA:*

*Name:* Michael Everett

*Title:* Water Resources Specialist – LRO

*Date:* 02/15/2017